

MR. ARTHUR R. GREEN, LADNER'S LANDING, B. C.

JULY 19, 1895.

Deputy Collector of Customs; also Acting
Clerk of the Municipality.

(Interviewed by Wm. Wakeham and Richard Rathbun)

Has been on the Fraser River since 1871, from the mouth to the head in the Rocky Mountains. Is a civil engineer. Has been in this country since 1862. Was born in 1842, in the north of England near Newcastle-on-Tyne.

Q. You have seen about all the salmon fishery in this river?

A. I have seen it since 1871, except the time I spent on the railroad. I dare say I have seen a good many things even the fishermen have not seen in the upper part of the river, in regard to the quantity of the fish and the habits of the fish.

Q. That is a very important thing to us and one on which very few observations have been made. Now the sockeye is the principal fish here?

A. Of course they come in greater numbers

than any other fish. Don't be afraid to ask me any question; I will give you all the information I can. The observations of my brother, having been fishery warden here on the river for years, he would perhaps give you a great deal of information I cannot give you, but in his absence I will answer all the question I can.

Q. You take it in the upper waters, what fish have you observed there; have you observed the sockeye?

A. Yes, sir.

Q. The quinnat?

A. No; my opinion is that the spring salmon do not go up nearly as far as the sockeyes. They don't ascend the river -- I could not tell you exactly where they stop, but in the upper part of the river we don't see the spring salmon at all; that is above the canyons in the Fraser.

Q. Have you observed any other salmon up there besides the sockeye; humpback or coho?

A. No, the humpback don't go up -- they confine themselves, in my opinion, to the tributary streams below the canyons in the Fraser.

Q. Have you ever seen the humpback on their spawning ground?

A. Yes, frequently.

Q. What sort of places do they go into?

A. The small streams.

Q. Near at hand?

A. Within -- I don't think I ever observed humpback salmon above 50 miles from the mouth of the river. That is, Yale is 90 miles from the mouth, and I never saw sockeyes (humpback?) above Yale. I never remember seeing one 50 miles above, but in all the streams within 20 or 30 miles of the mouth -- yes, within 15, 20 or 25 miles of the river, ~~the~~ in the season when they run it is just perfectly alive with these humpback salmon.

Q. Do they go into very shallow streams?

A. Yes, I have seen them in streams not more than 2 feet wide and 1 1/2 feet deep; just enough for them to get along; the smallest tributaries they will go in where there is no other salmon, not even the sockeye, will venture in.

Q. You think they keep apart from the other salmon on their spawning grounds?

A. Well, it looks like that. We find the humpback salmon in all the little bits of streams, and I don't remember ever seeing sockeye salmon in such small streams, and it looks as if they did have a different idea of the spawning grounds.

Q. Of course they never occur in tidal streams; they must be in fresh water, that is spawning?

A. I think so. I think the idea is they get above where there is any salt water influence. Yes, most decidedly they do.

Q. Now, dog salmon; do you know anything about them in their spawning grounds?

A. Yes, I know them. My idea is that they are pretty much the same nature as the humpbacks.

Q. Then the cohos?

A. The cohos are what we call the fall salmon. They come after the sockeye run. I could not swear that I ever saw any above the canyon of the Fraser, but my firm belief is that they don't go up there

Q. Where does the steelhead go?

A. I could not tell you much about them;

they are found everywhere and anywhere. They are found amongst the spring salmon, amongst the sockeye, and as far as I can say, they are found at any time in the river and at all seasons. I think they are mixed up with the other salmon.

Q. Don't they go up the river very far?

A. I don't remember seeing any steelheads in the canyons of the Fraser River, and I prefer not to answer that question. I would say that I did not believe they went up through the canyons of the Fraser River. I don't remember, in all my camping life, ever buying the steelhead from any of the Indians up there for camp use, and I very much question if they go up that far.

Q. Now, what can you tell us about the general habits of the sockeye?

A. They spawn in all directions. They follow every tributary stream -- in what we call the big year they follow every tributary stream. Often I have seen them up in the Rocky Mountains I believe this river is about 900 miles long, taking all the ponds and creeks, and they are found in all the tributary streams almost to

the headwaters of the Fraser River. And some seasons in most extraordinary quantities. You will be surprised. I have seen these little streams, the smallest tributary streams; and you would think the salmon got tired bucking up against the stream and would rush in this eddy formed by the river and go there for a rest, and they would remain there for a certain time, then go off and other salmon would follow them and take their rest, and would be just like the fingers on my hands, just lying in the mouth of that stream. But that only used to occur, that very large run here, once every 4 years, and we believed there must have been -- we were puzzled to know what was the cause of this large run every 4 years -- we imagined there must have been a very successful year for spawning and that -- at the same time we did believe, and I think a great many people believe yet, that the salmon don't return to this river until they are 4 years of age, and that sometime or other there must have been such a successful hatching year that it created this large run, and that every 4 years these salmon returned to the river and they spawn

again and in such crowds that after 4 years that progeny comes back in the river again and so makes this very large run. But in the last few years that idea has been rather exploded, because we have had large runs here when it did not occur the 4th year. At the same time we are not satisfied yet that the salmon do not return when they are 4 years of age.

Q. I suppose the age of the salmon is known on the other side?

Wakeham:-- I don't think they are a bit too sure about it.

A. There have been salmon caught -- young salmon -- with a fly.

Q. Sockeye?

A. Yes, I think they were sockeye. It was young salmon, supposed to be about one year old. But there is a theory here that would rather contradict that, that the salmon do not feed at all in the fresh water.

Q. You mean the young salmon also?

A. Any salmon; and how is it that if salmon don't feed in fresh water that the young salmon could be caught with a fly. These men tell me -- only to day a man told me that some

of the salmon they caught over in the traps on the American side were full of herring. Evidently they feed in the salt water. But it is true, immediately they strike the fresh water they cease feeding. We never find anything inside of them here. I don't think any of the cannery men ever find anything here that they feed on in the river here after they leave the salt water. Of course they deteriorate every mile that they ascend the river. After they pass the canyons of the Fraser River they lose their scales and get bruised and they are tough looking fish; you would hardly recognize them. They are a pretty looking fish at the mouth of the river, but after they get up a few hundred miles they look more like ling cod, except for the shape, than they do like salmon. They lose nearly all their scales; rubbing up against the rocks trying to get up the easiest places. Instead of taking the middle of the river they take the sides and get around the rocks and rub these scales off and get just as red, and do not look like salmon.

Q. How many sockeye die up there?

A. Millions upon millions.

Q. Are there any live?

A. A great many people here hold that the sockeye salmon go up the river to spawn and that that is their ultimate aim and object, to get up there to spawn, and that is the last of them, but I don't believe that. I think the aim and object of the salmon is to go onto the spawning grounds, deposit the spawn there and return to the salt water, and in order to convince you, or satisfy you that there may be some truth in my idea, is that they are caught, the spawning salmon, in the pound nets and the nets here as they are drifting down the river.

Q. About what time would that be?

A. Well, I am not so -- during all the fishing season, because some of these salmon go up the first streams they come to, the Harrison River, for instance, and others have to go farther up and it takes longer to get down and some are caught earlier and some later-- just depends upon where they have to go to spawn. I do not know whether the theory is worth anything, but we have a theory that the salmon

return and spawn on the same ground that they were hatched, and we have tributaries here from almost Westminster up to the Rocky Mountains; some salmon have a short distance to go and some have a long distance; some try to return to salt water a great deal earlier than others. The fishing season lasts a certain number of weeks, and of course those salmon that spawn in grounds adjacent to the mouth of the river, they struggle to get down early and consequently some get caught while other salmon are struggling to get up the river. I ~~am~~ don't say that the theory is right, but my brother and myself we both agree on this. He has been Fishery Warden for years on the river and he wrote to the Department and made a very elaborate report about the very same thing. I believe Mr. Saunders that was out here disputed the idea about salmon going up and dying. I believe most of the fishermen have agreed that they do not go up there and die and that there is no further use for them. I believe most of them have agreed that this is an exploded idea.

Q. Of course we know well enough that the Atlantic salmon return to the sea, and you would expect it of all salmon; that is to say, the instinct to return to the sea, and if they get into places where it is impossible for them to free themselves and the like, why certainly they would die there.

A. That is exactly as I was explaining to your friend last night; that on account of the sudden shrinkage of the streams here some of the salmon have not a chance to get out of the stream, and that is the reason so many of them are driven ashore. For instance, the Coquitlan is a stream, 3 days' rain will raise it and you would think it was a mountain cataract, and a week's very dry weather will shrink it up so you can walk across it, and you can see the disadvantage salmon would be laboring under going up during this high water and being left after the shrinkage, and consequently the shores are lined with them, especially dog salmon, and the whole country stinks like a dung hill. But any of those salmon that are fortunate enough not to be left on the

shore, get in the water and they eventually try to get back in the salt water, and the fishermen tell me the moment they strike even the brackish water they begin to pick up and are a different fish altogether.

Q. Of course, not knowing anything about it, I should be decidedly of your opinion in the matter.

A. You are taking my word for what it is worth. Of course I do not say that I am right, as I am not an expert, but I am merely giving you my own observations. I have a great many friends interested in the fishery business and I take a great interest in it. I think it is an industry that should be fostered and protected in every way as far as this district is concerned.

Q. Have you ever taken any temperature in the Fraser River, of the water?

A. No, but I can get you all that information from a man in Westminster, Mr. Peele.

Q. Have you seen any of the shad here?

A. No, I never have. I have seen the fish in the lakes. I have been on most of the

principal lakes in the interior. We had a line running through all the country among the lakes and we used to have a camp along the lake and used to get these very large trout. I think they were peculiar to the lakes. They used to run from 10 to 20 lbs. They were not very good, however, the water used to get warm in the summer, and you know how fish are when taken out of tepid water, but they were evidently peculiar to the lakes and I do not think they ever left the lakes, but the Indians used to have traps at the mouths of these lakes and catch smaller fish, but I think these fish were peculiar to these lakes.

Q. Did you ever see the salmon eggs lying on the bottom?

A. No. I have seen them attached to branches of trees and that sort of thing, but not on the bottom of the river. The salmon cover them all over with gravel and mud. I have often seen salmon depositing their eggs and saw the trout swimming around them waiting to devour the eggs. That is common trout, and I saw the Indians very frequently with branches of trees or bushes that they have put

in the water evidently to collect the salmon eggs, and after they were taken out of the water they would be covered with salmon spawn, and the Indians eat them for food.

Q. Do you think the Indians did much harm to the salmon in those upper waters?

A. Of course they eat the salmon eggs. They put the branches of the trees as an inducement I suppose for the salmon to deposit their eggs. I think the salmon spawn on the branches of the trees and the Indians evidently planted them, and whether it stops the salmon or not I don't know. It may collect them by being washed down.

Q. In what other ways might the Indians harm the fisheries?

A. They use all sorts of devices and designs to catch the fish.

Q. Do you think they use enough eggs and young fish to do any particular harm?

A. I hardly know. I have not had experience enough for that. I have no doubt that they do destroy them.

Q. Are there a large number of Indians knocking about those spawning grounds?

A. The Indians are catching the fish all down the river from one end of the river to the other. You will see stacks of salmon being dried, both the whole salmon and the salmon spawn.

Q. How do they catch salmon up there generally?

A. With dip nets.

Q. Do they use spears also?

A. Yes, in some cases they do, but principally dip nets. They go out onto a point in the river and they build out a platform in the river (illustration) and they have a dip net on the end of a long pole and they just dip that in the water and whenever they catch a salmon they throw it out on the shore, and in a good season almost every time they put the net in the water they catch a fish. That is when the salmon are running up. They are the sockeye salmon.

Q. We have also heard that they will take a large number of young salmon?

A. Well, I could not tell you anything about that. I think they do, but I have never seen any young salmon -- I have never come across

any Indians with the young salmon, but I firmly believe they do, but from my own personal knowledge I have never seen them with the young salmon.

Q. What is your opinion, from what you know and have heard, regarding the relations of Point Roberts to the Fraser River?

A. I will give you my idea of it. Of course it is more perhaps from hearsay than it is from experience. It is not much from experience because I have never been acquainted with the fishery and never was over in Point Roberts when they were fishing there, but I know the general impression. I can show you -- I think I can show you perhaps how the fish come in the river and the direction they take in order to arrive at the mouth of the Fraser River. Here is Boundary Bay, then comes another bay called Mud Bay, and then comes Semiahmoo Bay, after that comes Birch Bay and several other bays. Well, the idea is here that the salmon-- of course this is very shallow here in Boundary Bay, and the tide runs out -- there is 2 miles of beach at least - but where the salmon start from, of course they come up the straits of

Juan de Fuca, but they come along somewhere near Semiahmoo Bay. It is evidently they do, because that cannery of Drysdale's, they catch large quantities of them in traps, and then they come into Mud Bay and then Boundary Bay, and then they approach the shore here with the idea of going around Point Roberts, and of course they go around Point Roberts with the idea of going into the Fraser River, and they follow the shore at Point Roberts, English Bluff, at the Indian Reservation, and along the Gulf of Georgia, as near the shore as they can go until they come to Canoe Pass, and lots of them go up Canoe Pass, but the majority pass Canoe Pass until they strike the mouth of the Fraser River, and they will lay off here for several days. Of course you know the fish are lousy in the salt water, and they remain in this brackish water until they get rid of the lice, then they commence to run up the Fraser River, and our idea is that these traps at Point Roberts catch the fish that really ought to go into Fraser River. Every fish that they catch there are struggling to get into Fraser River. But of course a great many of the fish -- there

are millions of fish that don't go around there. They go around through Plumper's Pass, making direct for the Fraser River, that the traps over there do not interfere with at all. For instance, to-day if you were to go down to the mouth of the Fraser River you would see nearly a thousand boats fishing there, almost ever as far as Plumper's Pass and not in the direction of Point Roberts at all, and that is probably another run of fish coming from another direction with the same object in view of getting into the river, but coming in a different direction.

Q. It troubles me a little to understand whether those fish in Boundary Bay trim the shore or not. Now some of the nets are set with the leader far off shore, which give the fish a chance to pass along the shore, but others have the leader come up close to the shore, and yet the next succeeding net catches them. Of course where the leader is longest, where it cuts off the other man's, it practically catches the most fish, and that is especially so at the A. P. A. net at the southeast corner, right by their cannery.

A. Is it all deep water you are speaking of? You must remember I don't know perhaps exactly the measurement of that place. Do those traps you are speaking of belong to the same owner?

Q. The net I am speaking of is where Waller's net used to be, only they have run it out 1 1/4 miles, with 3 pots on it.

A. The shore end is how far from the shore?

Q. It is at high water mark. The thing was this: even if the leader comes in pretty close to the shore, yet the succeeding nets catch more or less fish; that is that the nets do not seem to make complete barriers. It looks as though the fish were leading into the shore in different places, so that each net had its share.

A. They have arrived at the conclusion that fish do go nearer the shore in certain places and at others they go farther out. It is just the same in this river. You ask any fisherman who has fished on this river for a few years and he will tell you it is no use throwing his net out at a certain place because

the fish don't go there, but he would show you a place that looked very similar indeed to the place he had rejected where he would probably make a good drift. There is some peculiarity in the depth of the water or the nature of the water; there may be an eddy or something of that kind; and sometimes the erratic way in which the fish go up the river, you cannot account for it.

Q. What is your idea of the offal business?

A. My idea is that the offal should not be dumped in the river. Of course I am speaking with a little prejudice because I was brought up to the medical profession in the old country, and I was always taught that any decayed animal matter was injurious to health. But really I consider it is a great mistake to allow the offal to be dumped in the river; that is my opinion.

Q. That is with regard to health?

A. Yes, with regard to health. Surely it must be injurious to the fish. I suppose there is nobody can prove that the fish have been frightened away by seeing another fish's insides in the river in front of it, but cer-

tainly you would imagine that the inside of a fish dumped in the river, and being decayed animal matter I suppose you can call it, that it would not be conducive to the health of any other fish coming in contact with it. Furthermore, we have got an objection here, on account of the health of the community. There was a resolution passed here the other day in open council and a petition sent to the Minister of Marine and Fisheries in Canada, Mr. Costigan, written by myself and sent to him, an answer to which I received, complaining of the Dominion Government allowing the canning men to dump their offal in the river on account of the complaints made by the health officer here as to the likelihood of some disease occurring here through the people drinking contaminated water. This resolution was passed under the Health Act.

Q. You have cannery men on the Board have you not?

A. Yes, sir.

Q. Did they not object to it?

A. No. A cannery man moved this resolution: That on account of the action of the Dominion Government in allowing the salmon

canners to place the fish offal in the Fraser River, that the Council of the Municipality, in the interest of the public health, request the Health Committee of the Corporation to take the necessary steps to prevent any of the cannery men in this municipality from allowing the offal to be disposed of in such a manner as to be detrimental to the public health, and that a copy of the above resolution be forwarded to the Hon. J. Costigan, Minister of Marine and Fisheries; and that a copy of the above resolution be sent to the Westminster Council, asking their co-operation in the matter. I received an answer from Mr. Costigan acknowledging the receipt of the resolution. You see, I think myself, outside of the Dominion Government -- suppose the Dominion Government was to allow these men to dump this offal in the river, that the health officers here would have jurisdiction in spite of that legal license, on account of the health of the community. Now, for instance, let me tell you that this water that is running up this sluice behind us here is supplying dozens of farmers with water for domestic purposes. There is a cannery right

opposite here. Remember there is a tide flowing up here twice a day and the offal dumped from this cannery would be carried by that sluice to where these people get their water, and of course that is very disagreeable to say the least. I have been told by fishermen here that they have in the night; they have taken their scoop -- these things that they bail their boat out with -- and dipped it overboard to take a drink of water, and they have had a mouthful of fish guts; and I know down at Steveston that the drift of the current is over toward Steveston on the shore there, and they tell me that in order to get a drink of anything like decent water they have to wade, sometimes in the height of the season here, they have to wade out through this offal to get decent water. I think any farmer out here could bring an action against the canneries. But I don't think the Dominion Government would fight that thing for a moment, because they would feel that by fighting that thing they were doing an injustice. Really I don't think they would try to sustain that. The health officer really is boss of the whole racket -- what he says will go. It is like a

doctor on board of a ship. He is really sometimes ahead of the captain you know.

Q. On the Great Lakes they do not throw offal in as a rule.

A. Mind you, apart from finding fault or anything of that kind, it seems -- but perhaps I had better not say it -- but these men have been fighting and spending money defending their action of throwing offal in the river when the Dominion Government have been fighting them, and the Dominion Government turns around and says, go ahead and shove your offal in the river. Some had their licenses taken away from them because they threw it in the river. English lost a position worth \$500 a month because his license was taken away; but yet the Dominion Government turns around after a while and says, go ahead and shove it in the river. At Westminster at the last session they congratulated the Dominion Government in their report as having stopped this offal being thrown in the river, and that very day the order came out from Canada saying they could throw it in. Now, of course, there is a manufactory, or oil factory and guano manufactory being

built here which will cure the whole thing of course, and a very useful thing it is, and you have no idea what a good fertilizer it is. I believe in it everywhere. But it is a valuable product and there is no reason why it should not be used. Our Commissioner in London, I believe it was Sir. Charles Tupper, wrote out and said what money there was in manufacturing this offal into guano, but they figured it out here what with freight and one thing and another, and the cost of labor, that there was nothing much in it.

Wakeham:-- We started some years ago a guano factory on the Labrador; there was no oil in that, but the whole refuse was turned into guano, and it brought them \$50 a ton.

A. Mind you, I am only giving you my opinion as a private citizen; not expert evidence at all. These cannery men will probably not give you such unbiased evidence as I am giving, although they call themselves experts. At the same time I have great affection for this country and for the salmon interest, because I think if it was properly fostered and encouraged, we have as good as gold mines in

this neighborhood if our fishermen are properly protected and not hampered with too many restrictions.

Q. The cannery men are making good money now are they not?

A. The fishermen are getting a good price but it is difficult to say whether they are making money or not. They ought to be making money, the prices are good enough for them, but they are paying bigger prices for the fish this year than they used to. They are paying 25 cents a piece for these sockeyes and a great many of them do not dress more than about 4 lbs., so that is about 6 cents a lb.

Q. What is the price per case?

A. Well, I believe at present they are worth in London about \$5.

Q. And how many lbs. to a case?

A. 48 lbs. to a case.

Q. That is only a little over 10 cents a lb. There is not much margin there for profit.

A. Well, of course, they, in Europe, are content with a much smaller profit than they are in this country. These men who sell whole-

sale, if they make a dollar a case are doing well; a small profit is all they expect. I think in England they sell for about 9 pence . I have a sister in Dublin, and she tells me, "we can buy your salmon for 9 pence, and it is very nice salmon." Sometime ago I heard from her , and I suppose that is about the price. That is 18 cents, so that leaves a pretty good margin for the retailers there, but here they would not consider it a very good margin.

MR. FRANK LORD, LADNER'S LANDING, B. C.

JULY 19, 1895.

(Interviewed by Wm. Wakeham and Richard Rathbun)

Q. How long have you been connected with the canning work on this river?

A. Since 1877. I am an American citizen still.

Q. I am surprised that they will allow you over here.

A. Oh, well, it keeps one out of politics, and I think I shall take out papers some day.

Q. What we want to know is simply some facts and some information from you regarding the fishing, and it is for our information and not for publication.

A. You say I know what the controversy is; what do you refer to in particular?

Q. That the fishermen in the Fraser River contend that the pound nets at Point Roberts are taking all the fish?

A. Yes, sir.

Q. Well, now, your acquaintance with the fish is in the lower part of the river?

A. Yes, sir. When I first came on the

river I was located at Westminster. I don't know anything about the river above where the fishing is conducted with gill nets. I don't know anything about the spawning habits.

Q. You are acquainted intimately with the fishing at Point Roberts as well as the canning industry there?

A. Yes, sir.

Q. We have talked over with different persons the fish which occur in the river and which move up the river, etc., and probably there is no necessity of going over that again for the river. Now as we understand it, the salmon which occur in the river, which run up the river, are the quinnat, the spring salmon, the sockeye, the humpback, dog salmon, coho, and the steelhead.

A. Yes, sir.

Q. Are all of those taken at Point Roberts?

A. Yes, sir, they are all taken there.

Q. Now, about the time when the fish are taken; I presume there is less known about that at Point Roberts than here; the fishing season is shorter there?

A. It commences earlier and naturally

ceases earlier, but I think the length is about the same. The time of beginning varies from the first of July until the 15th, and as a rule it ceases about the 15th of August, and from that to the first of September. There is no sockeye fishing in September at Point Roberts as a rule. It may be occasionally, but very seldom, and in fact, we seldom get it in the Fraser River after September, until the last few years. There has only been a fall run of sockeyes this last few years -- that we have been getting a late fall run of sockeyes.

Q. The quinnat you do not put in for in the spring?

A. They never have before until this last 2 years, but they have this last 2 seasons. I think they had in only 2 this year; one by the Alaska Packers and one by private parties. Over there they do not catch any spring salmon before about the 10th or 12th of June. They did not try for them before that. As a rule they do not come in any great quantities before that time. The fishermen in the river catch spring salmon right straight along through March or the first of April until sockeye fishing

commences, and they will get them right along during the summer, but the principal run of spring salmon is in the months of May and June. They have never been tried for at Point Roberts until May and June. It is expensive business putting in traps, and as a rule it would not pay them.

Q. What is the weather in March and April at Point Roberts?

A. Well, the weather is rough in those months as a rule.

Q. It would be hard fishing in those months?

A. Yes, one would require good gear. What I mean by being rough, it is rougher than it is now. You noticed to-day when you went out this morning you had easterly winds, and that is the prevailing wind.

Q. What is your common summer wind?

A. Just the opposite direction; from the northwest. We missed that to-day, however, but that is the prevailing summer wind, and that is why it has been so rough at Boundary Bay this last few days. It was rough at Boundary Bay this morning so that my traps could not be lifted for a while. It is pretty shallow

water; about 18 feet below tide water.

Q. What is the difference in the habits between the quinnat and sockeye in general?

A. Well, in the first place, we have 2 distinct runs of the quinnat. They come any time from March to July, and in May and June are thick, and that is what they call the principal run; and then after the sockeye fishing is over, about the first of September and up to the 20th, there is another run comes in, and that run is peculiar in this way, that the majority of the fish are white in that late run. The later in the season the bigger the percentage of white salmon. That applies to both places.

Q. One person to-day said there was just as many white in the spring as fall run?

A. He is mistaken that is all. In the river we find invariably that is the rule. In fact it is unprofitable almost to handle spring salmon in the middle run on that account, the majority of them are white. I have seen the boats come in with $2/3$ white salmon. Mr. Ladner canned several thousand cases 5 or 6 years ago, and I think he has some of them yet. I know we were down at Canoe Pass in 1881 and 1882,

and we salted a lot of those white salmon; 200 or 300 bbls. of them; and labeled them Pacific sea trout, and did not get the price of the salt and barrels -- could not sell them at all. They were fine fish too. That is the peculiarity of our spring salmon in the fall; and there is another: we have different sizes of those spring salmon too; in the May and June run they are much larger than they are in the early part of the season. A good fisherman will have 2 sizes of nets for those fish at the same time, and will fish a small mesh in the early season, and when it gets along in May and June he wants a larger mesh, and must have it to do good work.

Q. Now, ~~xx~~ it is said that the quinnat can be found here more or less all the year?

A. Oh, yes. Of course the steelhead run comes first, that is our winter salmon.

Q. When do they run mainly up the river?

A. Along January, February and March.

I don't know as there is any fishing done in January, but they are in the early spring.

They spawn later than the others. They are the latest and earliest; the mid-winter fish

I think,

Q. Right in here, have you seen any shad taken in this river?

A. No. I don't believe I should know a shad if I saw one.

Q. The information we have; that 3 or 4 people have told us about it, and they have been principally people from the east coast; say they have seen a few, but not many?

A. I never saw a shad. I have heard they take some shad in those traps out there, but I don't know.

Q. Now, you get salmon mainly from the river here?

A. Oh, yes.

Q. You have not been getting many from the American traps there?

A. No.

Q. But are beginning now with your 2 traps?

A. Yes, sir.

Q. Well, the feeling among the fishermen has been that the traps as run about Point Roberts are destructive to the permanent fishery in the river?

A. My opinion about the traps is this: they just take so many fish out of the water that otherwise would be in there if they would let them alone.

Q. Of course the question is whether the traps -- they are set there in different ways -- your traps do not come in near the shore anywhere, and several of them do not come in, and some of the traps come in to the shore, and the question is whether those longer traps would tend to stop the runs of salmon and turn them into the traps?

A. Well, of course, the traps set as you saw them there, they break the schools of fish, and I think, myself, that it has a tendency when the school is broken, it stops them in their course to the Fraser. If they were not interrupted in their course they would come right around to the Fraser in the schools, and I think the traps break them, and they play around until they get together again.

Q. How low down in the net do the fishermen take the fish?

A. Well, at all depths; some use deep nets and some shallow. They try to fish as near the bottom as they can.

Q. The salmon as they go up the river are near the bottom?

A. I don't think they are more than 10 feet deep, but still the fishermen will fish as deep a net as they can handle.

Q. Do they school at the surface in the river at all?

A. I don't think they do.

Q. In the salt water around Point Roberts do they school at the surface at all?

A. At times they do. Sometimes you can see fish jumping on the surface, and at other times the traps will be fishing well and you cannot see any indications of fish. Those schooling to-day must have been near the surface as they were seen. When the traps caught well day before yesterday there were no indications of fish.

Q. What is your idea of the movements after they come in through the Straits of Fuca?

A. Of course we know they come up all those different channels.

Q. What proportion go into Boundary Bay?

A. I think a very large proportion.

Q. And follow the shore there along into Boundary Bay?

A. I think they come up in the bay until they begin to strike shallow water, and then head off and string across the point. I am inclined to think a large proportion go into Boundary Bay. It depends upon the winds too. With these winds we have had these last few days, it has a tendency to drive fish up in the bay. The traps do better in the bay with the wind from that quarter.

Q. Boats fish 4 or 5 miles, way out in the sand, and they fish all around in the sand, and we thought that they were fish coming from the other side?

A. Of course all the fish don't come in at Point Roberts. Some are close in and others are off shore. I think these big-finned fish are plentiful everywhere.

Q. Have you ever noticed since the traps have been at Point Roberts that the fish are found farther out?

A. Well, that is hard to get at because it is only within the last year that the fishermen have been going out so far, and they will go out just as far as they can do good work and years before that they did not fish outside the mouth of the river at all.

Q. Now when the fish come into Boundary Bay how far up do they get in that shallow water?

A. Parties living on the bay there have told me at times they have seen the fish right in close to the shore, and, in fact, I have seen the water almost white with the splash of salmon close to the shore.

Q. Some people have said that on that shallow place that many salmon could not be taken; where your nets are now?

A. It is not near so good a fishing ground as it would be farther out. We had those nets in last year and they did practically nothing, but I think it was more the fault of the construction than location.

Q. Have you done much with them this year?

A. We have done better.

Q. Why do you have your leads running north and south; why would they not do better the other way?

A. Some of the fishermen think the fish are running more parallel with the boundary line and not right in and out of the bay. Last year our traps were set just the opposite way from what they are now. Last year our

traps were set -- we thought the fish were coming from Blaine and would go into our pots there, but this year we set the traps that way. Last year they were set N.E. and S.W. and this year they are set N.W. and S.E. We have one set that way and one this way this year (illustrating).

Q. Now, that next net below you is Pike's?

A. Yes, Pike is next.

Q. Has he had much success with his net?

A. He has done better than we have.

There is a man who had a trap right here last year, named Wyman; he is not fishing this year, but his trap did very well last year.

Q. Good-fellow says his traps do not fish nearly as well as they did farther out.

A. Oh, no; of course more fish strike right across than there are go way up in where he is. We are in shallower water and farther out of the way of the natural course of the salmon. It is pretty expensive bringing fish around from there.

Q. We understood that the reef net of the

A. P. A. was the best net there?

A. I think it is. Above that No. 12,

they call it -- the first good trap you come to, that wire trap, on the S.W. corner, practically. That is a new trap, of course. I would rather have that location than any.

Q. Now, of course there is no question but what if they can use their fish, they are going to increase the number of traps over there?

A. Oh, no doubt. I expect to see that -- I think it is just in its infancy.

Q. Should not some precaution be taken beforehand so that there should be some regulation about them, if the number of traps should be increased; have you ever thought of the matter?

A. No. Of course, being a cannery man I do not want to see stringent regulations. The season is so short that any close season for any length of time would knock a man out, but I think there should be a close season.

Q. About when would you have it?

A. Well, I think for a certain length of time every week.

Q. For the pound nets?

A. Yes, sir. I don't think there is any

need of making them quit fishing for a certain time of the year. The time is hard to fix unless you have some way to control it locally; then I think it would go off all right.

Q. When are fish less likely to be required; what time in the week? How about the river regulation?

A. Well, I think it is very well arranged here in that respect. If we must have a close season at all, it is about as convenient now as it could be.

Q. Of course the people around Point Roberts are just as much interested in retaining the supply of salmon as the people in the river are. They depend upon the proper hatching of those fish in the river to maintain their supply; if the fish go down in the river they must go down out there. Now you can really consider it in this way; that the mouth of the Straits of Fuca is really the mouth of a great big river. Now, in the Columbia River, of course you know perfectly well that the catch has gone down very much. It is nothing to what it used to be, and there seems to be not the slightest question but that it is due to over-

fishing. Now, they are anxious to have things right there, but it seems hard to do it, and it is this trouble; that there are 3 states interested in that river -- Oregon, Washington and Idaho, and they do a good deal of fishing in a small way in Idaho, and Idaho has the means of doing a great deal of harm because they have some of the most important spawning grounds. A report has been published by the Fish Commission recently in which attention is drawn to that matter. The United States makes no fishery laws except for its own territory, but these recommendations are made with the hope that the states will take it up and arrive at some action in the matter. It seems almost a pity that the Federal Government cannot take up such matters when they relate to 2 or more states, simply to make them uniform. I have maps up at New Westminster showing the exact location of all the apparatus in the Columbia River, and it is something most astonishing, the number of trap nets, gill nets and wheels which are used there. Now there is one good feature of the trap netting in the Columbia River, and that is regulated by law: that the traps all have intervals

between them. There is no long continuous line of traps. Now there is another question that would come in here; whether it would not be better to arrange it so that there would be intervals between the traps -- if you have 3 traps, have intervals between them; or, as you have done, and others have done; have them set in a sort of diagonal line.

A. Yes, the fish ought to have some way to get through I should think.

Q. Here is something else which somebody referred to to-day when we brought up the discussion, the question of a weekly close season: It was that if you had a weekly close time there the fish might be ten days getting around to the Fraser River. They would not get around, of course, the same day that you had the close time here, and they might come in the middle of the week and would all be caught up here?

A. The same thing applies here in the Sunday night fishing. After the rest of all day Sunday and Saturday night down here, the Sunday night fishing is always best up the river and the fishermen always flock up there.

Q. Do the pound nets take as many fish

as the river fishermen?

A. Oh, no.

Q. The canneries on the river get all their supply of fish from the Fraser River excepting the little they get from Point Roberts?

A. Yes, sir. We got more fish from Point Roberts last year than all the rest of them put together, and we did not get more than 30,000 salmon.

Q. Of course, the idea is to interest the fishermen in the work on the other side and the owners of the extensive apparatus in order to have them take part in regulating those matters - have them take an interest in it. This Alaska Association, of course, they are subject to the United States' laws to a very large extent; all their Alaskan fisheries coming under the United States' laws. There is a law which prevents their obstructing the ascent of salmon in the rivers. Of course that does not mean they shall not catch any. The width of the river which they shall leave open is not given and there is difficulty in carrying out the regulations because the revenue cutters are all kept looking after the fur sealers when they ought

to be around these salmon rivers.

A. It is hard to interest the Alaskan Packers I suppose?

Q. It is, especially those who are in the field, but there is one man who comes to Washington and he has taken a great deal of interest in the Alaskan laws and has been very favorable to the things that have been passed there in Washington in regard to them. He is at the Fish Commission office a good deal; and the thing is we do not want the salmon cannery men to make too much money at once. We want them to feel that they are interest also in preserving the fishery and keeping it up for a long time.

A. Yes, that is the way they should think I suppose. The Washington State law that was knocked out by the courts over there was very good in that respect. It provided for several hundred feet between the traps lengthwise and so many thousand feet laterally.

Q. The State law is not very bad, that applies to Puget Sound -- only it does not apply.

A. No. I thought it was very good. It would have left lots of room for traps.

Q. You see the thing is simply this: if you get your law in time, the men who are now in are going to be benefitted by it; it will keep out others.

A. Instead of the Alaska Packers Association being interested in the preservation of salmon, they lobbied that bill out and prevented the passage of a new one.

Q. Mr. Drysdale has given us a great deal of information, and we will have to have a real good long talk with him, because his interests lie in maintaining the supply.

A. Yes, certainly.

Q. The Columbia River has been such a sad lesson. The Sacramento River went down largely from another cause; the placer mining had much to do with that.

Wakeham:- If the fish reach the upper waters of the Fraser they are perfectly safe?

A. Yes, sir. It is wonderful what countless thousands of fish there are at the headwaters of the Fraser. The only thing is, you have those large numbers now, but some years they may begin to drop off, for you have all these canneries here and some of them are going

to suffer by it. There was some 40 odd canneries on the Columbia when I was acquainted with it, but now there are only 32 I think. There is no question but what something should be done to preserve the salmon, and I think the Federal Government is the one to take hold of it. You cannot get states to act together.

Q. You take Lake Erie, for instance, you have Canada on one side, and then Michigan, Ohio, Pennsylvania, and New York, all having different laws, and none of them enforcing them excepting Canada.

A. Now, you take it on the Fraser River, I think the Dominion should control the thing, but control it in some way so they can do it intelligently.

Q. You see that if the fish decrease around Point Roberts and in the Fraser River it is only the Canadian Government that can be depended upon to replenish the supply by fish culture, as the United States has no means of helping out.

A. The next best thing they can do is to limit the catch as much as they can. That is as I was telling the Doctor a few moments ago. I

I think this hatchery was responsible for this increase of the run these poorer years. That is very good.

Q. In some cases it is difficult to say what the hatcheries have done, but we have instances where there is no question about it.

A. I think this hatchery up here has been well conducted. I think it could be improved upon; the location is not exactly suitable.

Q. Lake Ontario was practically fished out at one time, but fish are not at all extensive now, but the whitefish which have been hatched and put in were Lake Erie whitefish, which differ sufficiently so that fishermen and others who are well acquainted with the whitefish can notice the difference. Now the main run of fish in Lake Ontario are Lake Erie whitefish, so there is no question about the work of the hatchery, and there is a case where you have the positive proof.

Wakeham:- On the Miramichi River, the fish natural to the river were a small run averaging 12 or 14 lbs., and for a long time we had no hatchery on that river, and we planted fish taken from the Ristigouche where the fish

average 24 lbs., and the fishermen say now that the run of fish that are being caught on the Miramichi are Ristigouche fish; that is, the fish weigh 24 lbs.

A. I think some of the fishermen cried down the hatchery during Mr. Wilmot's investigation, and I think it was a shame and pity.

Wakeham:- There is very little doubt if a hatchery is to be of any use it must work on a large scale.

Rathbun:- That is the way in which North America -- the United States and Canada -- differ from the European coast.

Q. Do you get any sturgeon in your trap?

A. Yes; we got 3 or 4 large sturgeon the other day.

Q. But you do not get any large quantity of them?

A. That trap has only been in operation about a week.

Q. When do the sturgeon run here mostly?

A. Along April, May and June.

Q. Are the traps at Point Roberts likely to cut off the sturgeon to any extent?

A. Those traps are not fishing at that time of the year. They have not been heretofore. It only pays to fish those traps for sockeyes, because trap fishing is very expensive and I don't believe they will ever fish them for anything else. You have got to take a large quantities to make it pay. It is like this you know; those piles you cannot use for more than 2 1/2 months, as they get so covered with barnacles they will chafe the nets off, so that if you fished them at other seasons you would almost have to rebuilt the pots. It has been the practice to leave the piles in the water heretofore.

Q. Could not those piles be easily removed?

A. Well, when they have attempted to pull them out they break off right close to the ground. That is how those steamers went aground out there; they broke off a pile that had been there 2 years and was 15 inches through and they drifted ashore. They were tied to one of those piles.

Q. You have no information much about Point Roberts until the last few years?

A. No, I have not been interested in the traps there, but, of course, I have been with Mr. Wadham's on this river for years, and he had the first trap there. Old man Waller had a trap there, but he did not catch many fish. He was the first one that built a trap there. It was in 1881 or 1882 I think. He never made a success of it. And then Mr. Wadhams took hold; he built a trap there in 1884 or 1885. He had that same Kirby who has charge of all the traps there now. And there has been traps there ever since, so in that way I know something about the traps there. I know they never get any other fish to pay, because they never built traps suitable for the work. When Drysdale started and built a little cannery at Semiahmoo he got a good practical man in there and made a success of it from the first, and that was only 5 years ago. Kirby is a lake fisherman. Practically there has been no trapping down at Point Roberts until the last 3 years.

Q. Do the purse seines do much over there?

A. No, they have not done much with purse seines yet; there is a man working there with Purse seines now, and the fish have been very

thick there for the last week, and he has not done much. He sells his fish to Mr. Ladner this year. Last year he sold them to the Alaska Packing Company. But purse seines don't amount to anything over there. I think they do very well at Puget Sound.

Q. Do you know whether they have been used lately to any extent?

A. Sockeye salmon are not an easy salmon to catch with the seine; that is the general verdict of all fishermen.

Q. And the Indian fishing there?

A. That is a very primitive sort of an arrangement, and since the Alaska Company has that reef so thoroughly fenced in by their traps the Indian fishing does not amount to much. There is no fishing to amount to anything except in the upper Fraser.

Q. Do you think the Indians do harm in the upper Fraser?

A. I don't know. I know this: the Indians don't care for sockeye salmon. They will eat these dog salmon in preference every time. I think they call them qualah. They will take the humpback and coho in preference to the others

and I think because the sockeye are too oily for smoking successfully, and for that reason I don't think they will do any harm to the sockeye or spring salmon.

Q. There is a question we have asked everybody, whether there has been any decrease noticeable in the quantity of salmon so far?

A. Well, I don't think there has been any decrease. Last year some of them were complaining about the poor run. Where they expected a good run they got a comparatively poor one, but they have lost sight of the increase in the number of nets and canneries. I think it can be safely said there has been a decrease in the supply. I know the runs, excepting this year, have been coming later and later every year.

Q. How do you tell American salmon from Canadian salmon when they get into port?

A. They are all Canadian salmon all right enough.

Q. I do not see why you pay duty on them. What are salmon, fresh water or salt water fish?

Green:- I should say both. Ask Frank Lord.

Lord:- I think it is a fresh water fish because it comes there to spawn.

Green:- But it struggles to get back to salt water. Is not that its natural element? How much of its life does it spend in the fresh water?

Lord:- Not very long, but that is its home all right enough.

Q. Do you have a duty on fresh water fish and salt water fish?

A. Yes, sir. Well, we have no duty on fresh water fish coming in fresh, but we do on salt water fish, and the question is with the salmon, whether they are fresh or salt water.

Wakeham: (referring to schedule). Salmon pickled or salted one cent per pound. Salmon preserved or prepared, 25 per cent. That is the duty on Salmon in Canada.

Green:- I am instructed to collect $1\frac{1}{2}$ cent a pound on fresh fish imported from the United States. I asked the collector to-day whether I should collect $1\frac{1}{2}$ cent a pound duty on dressed fish or undressed, and he told me that I had to collect on the raw fish. If the fish were imported here undressed that the weight should be averaged, and we were to collect the $1\frac{1}{2}$ cent a pound as the fish came

into this county undressed. The salmon live in the salt water 9 months in the year. Salmon do not feed in the fresh water.

Wakeham:- Whether fresh, dried, salted, or pickled, 50 cents a hundred lbs. is the Canada tariff.

Q. What do you think of the offal question Mr. Lord?

A. I don't know what to think of it. There is one thing about it: of course where it is deposited along the river in certain places it is injurious to the public health and I think it makes a bad smell anyway, and a bad smell is supposed to be unhealthy. With regard to the fish, I am inclined to think it does no harm at all. I think if there was some inexpensive way of getting rid of the offal satisfactorily every one would be pleased to see it. There is one trouble about taking care of the offal in the Fraser River: we have such heavy spurts of fish. There would be 3 or 4 days when the canneries were overtaxed and immense quantities of offal thrown out.

Q. Would not this factory across the river be prepared to take it up as fast as it

was made?

A. Well, it should be of sufficient capacity to do so, but I don't know whether it would or not. I don't believe it would ever pay on this river because the fishing season is practically within 2 or 3 weeks, but of course the quantity of offal they would get in that time would be very great, but the amount of expense that would be required to prepare for 3 weeks' work would be great also. If they can make merchantable oil and guano it is all right, but I know it has not paid the way it has been handled heretofore. If the offal was well taken care of it must be better all around, there is no question about that, but I don't know of any sickness resulting from the offal. This is the worst place right here in the whole Fraser River, this slough right back here. Of course a few years ago the farmers all along here drank slough water. All their ditches entered that slough, and they never thought of blaming it to their own sewage, but blamed it to the offal.

Wakeham:- There was an outbreak of fever on the ----- River at one time. There were some

mills up there and there is undoubtedly a good deal of foul stuff accumulates in these dams; and one of the dams had to be cleaned out -- at least the dam gave way and they turned the water out of it, and the bottom was exposed for a long while, and it was very foul no doubt, and an epidemic broke out in the place and the health authorities of the province were called upon to look into this matter and they at once said the death was caused by the negligence of the Fisheries Department to enforce the regulations, but the real reason for their doing that was that most of the mills along there were good supporters of the Ontario Government and they threw it on the Dominion Government. I was sent out to look into it and when I commenced to inquire I found that all around this neighborhood they did not drink the river water at all, but they had wells sunk in their dooryards and in nearly every case they had a closet sunk right alongside the wells, and I attributed the deaths from fever to this fact solely, and I maintained in my report that these factories were not doing any harm and that it was these wells that caused the fever.